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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/712,701

11/13/2003

Tyler Sims

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9254

7590

06/05/2006

AGILENT TECHNOLOGIES, INC.

Legal Department, DL 429

Intellectual Property Administration

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EXAMINER

MRUK, GEOFFREY S

ART UNIT

PAPER NUMBER

2853

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/712,701

Applicant(s)

SIMS, TYLER

Examiner

Geoffrey Mruk

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4, and 6-9 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 8 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Giere et al. (US 6,422,688 B2).

With respect to claim 1, Giere discloses a heating device (Column 1, lines 42-53) within an integrated circuit (Fig. 9), comprising:

- a first conductive lead (Fig. 9, element 505);
- a second conductive lead (Fig. 9, element 515);
- a third conductive lead (Fig. 9, element 511);
- a first resistive region (Fig. 9, element 501) connected between the first conductive lead and the third conductive lead; and,
- a second resistive (Fig. 9, element 503) region connected between the second conductive lead and the third conductive lead;
- wherein a side formed by the first conductive lead and the first resistive region is parallel to a side formed by the second conductive lead and the second resistive region; wherein an insulator (Fig. 9 below) is placed between the side formed by the first conductive lead and the first resistive region and the side formed by the second conductive lead and the second resistive region, except for at least one

area directly between the first resistive region and the second resistive region, the at least one area including a third resistive region (Fig. 9, element 901) immediately adjacent to the third conductive lead, the third resistive region being in electrical contact with both the first resistive region and the second resistive region (Column 10, lines 6-9, i.e. current crowding position).

With respect to claim 4, Giere discloses the resistivity of the third resistive region (Fig. 9, element 901) is approximately equal to resistivity of the first resistive region (Fig. 9, element 501) and of the second resistive region (Fig. 9, element 503; Column 10, lines 4-19, i.e. varying sheet resistance).

With respect to claim 9, Giere discloses the integrated circuit is used within an inkjet printhead (Fig. 1B, elements 113, 115).

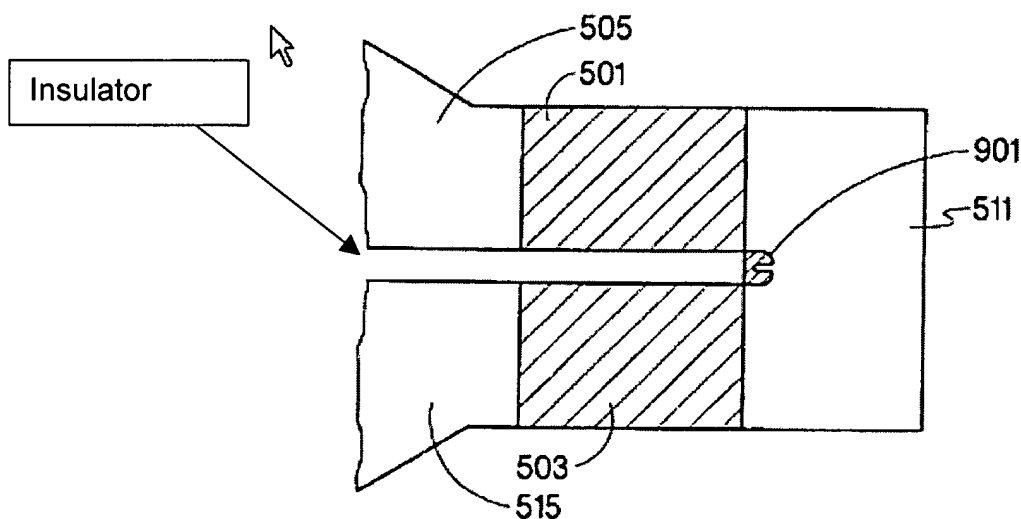


Fig. 9

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Giere et al. (US 6,422,688 B2) in view of Fouquet et al. (US 5,699,462).

With respect to claim 8, Giere discloses a heating device (Column 1, lines 42-53) and an integrated circuit (Fig. 9).

However, Giere fails to disclose a planar light circuit.

Fouquet discloses an internal reflection optical switch employing thermal activation where "A switching element is thermally actuated to displace liquid from a gap at the intersection of a first optical waveguide and a second optical waveguide. The actuation is achieved by heaters that create bubbles by vaporizing a liquid in the gap or by degassing a fluid that contains dissolved gas" (Column 3, lines 17-22).

At the time of the invention, it would have been obvious to combine the teachings of Fouquet with the drop generator of Giere. The motivation for doing so would have been "Each thermally actuated switching element may be operated utilizing techniques employed in inkjet printing, explosively ejecting fluid from one location to another. In another embodiment, the thermally actuated switching element vaporizes a small bubble in a trench to divert the optical signal from one waveguide to another." (Column 3, lines 57-62).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey Mruk whose telephone number is 571 272-2810. The examiner can normally be reached on 7am - 330pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GSM
5/30/2006

GM


STEPHEN MEIER
SUPERVISORY PATENT EXAMINER